

WHAT IS CLAIMED IS:

1. An ink jet recording apparatus for performing image formation on a recording medium by using a recording head having plural discharge ports being arranged to discharge ink from said discharge ports, comprising:

preliminary discharging means for performing preliminary discharges by discharging ink from said discharge ports irrespective of said image formation;

capping means for enabling a cap for capping said plural discharge ports to be in contact with and retract from the discharge port surface of said recording head where said discharge ports are formed; and

selection means for selecting whether said preliminary discharges are performed in the status of having said cap to be in contact with said discharge port surface or in the status of having said cap to be away from said discharge port surface, according to the number of ink discharges by said preliminary discharging means,

wherein said ink discharge number in the status of having said cap to be in contact is made larger than said ink discharge number in the status of having said cap to be away.

2. An ink jet recording head according to  
Claim 1, wherein when said preliminary discharges  
are performed in the status of having said cap to  
be away, said preliminary discharges are performed  
5 toward said cap or said preliminary discharges are  
performed toward an ink receiving portion other  
than said cap.

3. An ink jet recording apparatus according  
10 to Claim 1, further comprising suction means for  
sucking said ink in said cap by giving negative  
pressure in said cap, wherein when said  
preliminary discharges are performed in the status  
of having said cap to be in contact, said cap is  
15 communicated with the air outside, and suction is  
also effectuated by said suction means.

4. An ink jet recording apparatus according  
to Claim 3, wherein when said suction and said  
20 preliminary discharges are performed, said suction  
is performed for a designated time in the status  
of having the inside of said cap communicated with  
the air outside after said preliminary discharges  
terminate.

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5. An ink jet recording apparatus according  
to Claim 3, wherein when said suction and said

preliminary discharges are performed, said suction  
is performed for a designated time in the status  
of having the inside of said cap communicated with  
the air outside before said preliminary discharges  
5 begin.

6. An ink jet recording apparatus according  
to Claim 3, wherein the discharge frequency in  
performing said suction and said preliminary  
10 discharges is lower than the discharge frequency  
in performing only said preliminary discharges.

7. An ink jet recording apparatus according  
to Claim 1, further comprising wiping means for  
15 wiping off said ink adhering to said discharge  
port surface, wherein when a predetermined number  
of preliminary discharges is executed by said  
preliminary discharging means, said wiping means  
wipes off said ink adhering to said discharge port  
20 surface.

8. An ink jet recording apparatus for  
performing image formation on a recording medium  
by using a recording head having plural discharge  
25 ports being arranged to discharge ink from said  
discharge ports, comprising:  
preliminary discharging means for performing

preliminary discharges by discharging ink from said discharge ports irrespective of said image formation;

capping means for enabling a cap for capping  
5 said plural discharge ports to be in contact with and retract from the discharge port surface of said recording head where said discharge ports are formed; and

selection means for selecting whether suction  
10 by suction means and said preliminary discharges are performed in the status of having said cap to be in contact with said discharge port surface and having the inside of said cap communicated with the air outside, said preliminary discharges are  
15 performed in the status of having said cap to be in contact with said discharge port surface, or said preliminary discharges are performed in the status of having the cap to be away from said discharge port surface, according to the number of  
20 ink discharges by said preliminary discharging means,

wherein said ink discharge number of said suction and said preliminary discharges being performed in the status of having said cap to be  
25 in contact is made larger than said ink discharge number of said preliminary discharges being performed in the status of having said cap to be

in contact, and said ink discharge number of said preliminary discharges being performed in the status of having said cap to be in contact is made larger than said ink discharge number in the  
5 status of having said cap to be away.

9. An ink jet recording head according to Claim 8, wherein when said preliminary discharges are performed in the status of having said cap to  
10 be away, said preliminary discharges are performed toward said cap or said preliminary discharges are performed toward an ink receiving portion other than said cap.

15 10. An ink jet recording apparatus according to Claim 8, wherein when said suction and said preliminary discharges are performed, said suction is performed for a designated time in the status of having the inside of said cap communicated with  
20 the air outside after said preliminary discharges terminate.

11. An ink jet recording apparatus according to Claim 8, wherein when said suction and said  
25 preliminary discharges are performed, said suction is performed for a designated time in the status of having the inside of said cap communicated with

the air outside before said preliminary discharges begin.

12. An ink jet recording apparatus according  
5 to Claim 8, wherein the discharge frequency in performing said suction and said preliminary discharges is lower than the discharge frequency in performing only said preliminary discharges.

10        13. An ink jet recording apparatus according to Claim 8, further comprising wiping means for wiping off said ink adhering to said discharge port surface, wherein when a predetermined number of preliminary discharges is executed by said  
15 preliminary discharging means, said wiping means wipes off said ink adhering to said discharge port surface.

14. An ink jet recording apparatus for  
20 performing image formation on a recording medium by using a recording head having plural discharge ports being arranged to discharge ink from said discharge ports, comprising:  
25              preliminary discharging means for performing preliminary discharges by discharging ink from said discharge ports irrespective of said image formation;

capping means for enabling a cap for capping said plural discharge ports to be in contact with and retract from the discharge port surface of said recording head where said discharge ports are formed; and

preliminary discharge control means for controlling said preliminary discharging means to selectively perform said plurality of preliminary discharges having different discharge numbers of said ink, said control means controlling said preliminary discharge operations corresponding to the performance of said preliminary discharges in the status of having said cap to be in contact with said discharge port surface or to the performance of said preliminary discharges in the status of having said cap to be away from said discharge port surface, per plurality of said preliminary discharge operations.

15. An ink jet recording apparatus according to Claim 14, wherein the ink discharge number of said preliminary discharge operation in the status of having said cap to be in contact with said discharge port surface is made larger than the ink discharge number of said preliminary discharge operation in the status of having said cap to be away from said discharge port surface.